1084-57-130 **Matthew Stover*** (stoverm@umich.edu), Department of Mathematics, 530 Church Street, Ann Arbor, MI 48109. *Ends of hyperbolic n-manifolds.*

Let M be a compact n-manifold with nonempty boundary consisting of a disjoint union of tori. When does the interior of M admit a complete hyperbolic metric of finite volume? When n is 2 or 3, one can give a very satisfying answer to this question based entirely on the topological type of M. For $n \geq 4$, the situation remains far more mysterious. For example, there is no known example of a 1-ended finite volume hyperbolic n manifold for any $n \geq 4$, and orbifolds were only known previously for $n \leq 9$. I will discuss the proof of the following theorem: 1-ended arithmetic hyperbolic n-orbifolds do not exist for $n \geq 30$. This is a consequence of a more general result, namely, that for any fixed $k > 0$, the number of arithmetic negatively curved locally symmetric spaces N with $e(N) = k$ fall into finitely many commensurability classes. (Received August 28, 2012)